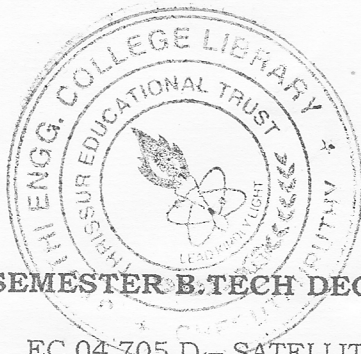


23142



Name:

Reg.No.

SEVENTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2011

**EC 04 705 D – SATELLITE COMMUNICATION SYSTEM
(2004 Admission)**

Time : Three Hours

Maximum: 100 Marks

- I. (a) State the advantages and disadvantages of geosynchronous orbits.
 (b) Briefly explain the look angles.
 (c) Describe a foot print.
 (d) Compare the features of fixed and mobile satellite service earth stations.
 (e) What are the frequency bands used for satellite communications? Explain their advantages and disadvantages.
 (f) Briefly explain the effective isotropic radiated power and equivalent noise temperature.
 (g) Describe Preassignment and demand assignment.
 (h) Discuss the draw backs of using FDM/FM modulation for satellite multiple-accessing systems.

(8 x 5 = 40 Marks)

- II. (a) (i) State Keplers Laws. (6)
 (ii) How to determine the period, velocity and position of a satellite. (9)
 (or)
 (b) Discuss the effect of earth's shape, heavenly bodies, atmospheric drag and radiation pressure on the satellite's orbit. (15)

- III. (a) With block diagram explain the telemetry, tracking and command system. (15)
 (or)
 (b) (i) What is a Payload? Explain. (5)
 (ii) Describe the structure and parameters of antenna and its feed. (10)

- IV. (a) (i) Briefly explain the noise considerations in the link design. (7)
 (ii) Complete the link budget for a satellite with the following parameters (8)

Up-Link:

1	Earth station transmitter output power at saturation, 2000 W	33 dBW
2	Earth station back-off loss	3 dB
3	Earth station branching and feeder losses	4 dB
4	Earth station transmit antenna gain	64 dB
5	Additional up-link atmospheric losses	0.6 dB